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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,091	09/17/2002	Fang-Chen Luo	5486-US-PA	4158
31561	7590	05/18/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			WANG, GEORGE Y	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/065,091

Applicant(s)

LUO ET AL.

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13, 24-33 and 44-55 is/are pending in the application.
- 4a) Of the above claim(s) 24-33 and 44-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 44-55 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species of the claimed invention:

(1) the specifics of the LCD device comprising a transparent dielectric layer comprising a first embodiment corresponding to claims 1-13;

(2) the specifics of the LCD device comprising an alignment layer between the first transparent conductive layer and the liquid crystal layer comprising a second embodiment corresponding to claims 44-55.

2. Currently, claim 1 is generic. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 44-55 are withdrawn from consideration

Art Unit: 2871

as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-7, 9-10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,691,791, hereinafter "Nakamura") in view of Kim et al. (U.S. Patent No. 6,038,008, hereinafter "Kim '008").

Art Unit: 2871

6. As to claim 1, Nakamura discloses a liquid crystal display (LCD) device (fig. 27) comprising a first substrate panel (fig. 27, ref. 280), a second substrate panel (fig. 27, ref. 295), and a liquid crystal layer (fig. 27, ref. 299) disposed between the panels, a plurality of pixel portions being formed by respective electrodes (fig. 27, ref. 288, 297) for applying voltage to the liquid crystal layer, each of the pixel portions having an organic insulating layer (fig. 27, ref. 292) over the first substrate panel where the surface of the insulating layer has a plurality of protrude/recess structures, a conformal reflective layer (fig. 27, ref. 288) over the organic insulating layer, a transparent dielectric layer (fig. 27, ref. 294) over the conformal reflective layer where the dielectric layer has a smoother upper surface

However, the reference fails to specifically disclose a first transparent conductive layer over the dielectric layer.

Kim '008 discloses an LCD device having a first transparent conductive layer (fig. 7h, ref. 104) over the dielectric layer (fig. 7h, ref. 126).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first transparent conductive layer over the dielectric layer since one would be motivated to prevent light leakage that would occur around the border of the pixel electrode as well as improve display contrast (col. 7, lines 35-54).

7. Regarding claims 2-7, Nakamura discloses the LCD as recited above where the first substrate panel (fig. 27, ref. 280) includes a glass panel (fig. 27, ref. 281) and a thin film transistor (TFT) (fig. 27, ref. 290) having gate, source, and drain electrodes, where

Art Unit: 2871

the organic insulating layer (fig. 27, ref. 292) includes an acrylic photosensitive resin, and where the conformal reflective layer (fig. 27, ref. 288) included aluminum material (col. 7, ref. 51-53).

8. As per claims 9-10 and 12-13, Nakamura discloses the LCD as recited above further having a second substrate panel (fig. 27, ref. 295) that is aligned to the first, a second transparent conductive layer (fig. 27, ref. 297) over the second substrate panel, and a liquid crystal layer (fig. 27, ref. 299) between the conductive layers, the dielectric layer (fig. 27, ref. 294, 298) including a transparent insulating material, and a color filter layer (fig. 27, ref. 296) between the second substrate panel and the second transparent conductive layer.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura and Kim '008 in view of Kim et al. (U.S. Patent No. 6,693,689, hereinafter "Kim '689").

Nakamura and Kim '008 disclose the LCD device as recited above, however, the references fail to specifically disclose a dielectric layer having a color filter.

Kim '689 discloses an LCD device having a dielectric layer having a color filter (fig. 12, ref. 117).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a dielectric layer having a color filter since one would be

Art Unit: 2871

motivated to improve color purity and improve the contrast ratio as well as the viewing angle (col. 8, lines 5-15).

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura and Kim '008 in view of Kubo et al. (U.S. Patent No. 6,819,379, hereinafter "Kubo").

Nakamura and Kim '008 disclose the LCD device as recited above, however, the references fail to specifically disclose a phase compensation plate and polarizer on the second substrate panel opposite the side of the liquid crystal layer.

Kubo discloses an LCD device having a phase compensation plate (fig. 1, ref. 7) and polarizer (fig. 1, ref. 6) on the second substrate panel opposite the side of the liquid crystal layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a phase compensation plate and polarizer on the second substrate panel opposite the side of the liquid crystal layer since one would be motivated to provide a satisfactory display with sufficiently high contrast (col. 5, lines 44-49) by minimizing the problems with an unsatisfactory black display and brightness (col. 1, line 62 – col. 2, line 10).

### ***Response to Arguments***

11. Applicant's arguments filed March 2, 2005 have been fully considered but they are not persuasive.

Applicant's main argument is that the prior art reference fails to disclose a transparent dielectric layer by asserting that Nakamura's layer (fig. 27, ref. 294) is an alignment layer and therefore not a dielectric layer. However, Examiner disagrees. Although Nakamura's layer is an alignment layer, there is nothing the claims that precludes it from being a transparent dielectric layer. Applicant argues that because an alignment layer is "essential" to an LCD display, it cannot be regarded as a dielectric layer. However, such an argument does not address the limitation as claimed, which merely states, "a transparent dielectric layer over the conformal reflective layer, wherein the dielectric layer has a smoother upper surface than the bumpy organic insulating layer." As a result, the alignment layer of Nakamura clearly functions equally to the dielectric layer as claimed.

Applicant further argues that there is no motivation to combine the references since operating mechanisms of transmissive LCD are different from that of reflective LCDs. However, Examiner disagrees. The fact that many LCDs are currently both transmissive and reflective (i.e. transfective displays, LCD class 349/114). Furthermore, the motivation found in the Kim reference to prevent light leakage that would occur around the border of the pixel electrode as well as improve display contrast is clearly applicable to either type of display (col. 7, lines 35-54).

As a result, Examiner holds to the validity of the references used and maintains rejection.

### ***Conclusion***



12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

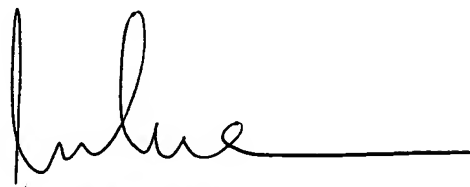
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw  
May 16, 2005



DUNG T. NGUYEN  
PRIMARY EXAMINER